

Proliferating cell nuclear antigen (PCNA) and p53 in epithelial dysplasia and squamous cell carcinoma of oral mucosa - A marker for poor tumor differentiation, increasing nuclear atypia and invasiveness

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Abstract:

The immunohistochemical expression of proliferating cell nuclear antigen (PCNA) and p53 was investigated in 9 cases of epithelial dysplasia and 38 cases of squamous cell carcinoma of the oral cavity. The intensity of immunoreactivity for each marker was assessed using a semiquantitative grading system, and was correlated with tumor differentiation, nuclear atypia and the patterns of invasive margins in the underlying connective tissue. PCNA expression, in dysplastic epithelium, was observed in the suprabasal and lower spinous layers; and the labeling grade and intensity of staining increased along the degree of cellular atypia. In 2 cases of dysplasia, weak positive immunoreactivity for p53 could be seen in a few isolated cells of the basal layer. In the squamous cell carcinoma, PCNA expression was correlated with the degree of tumor differentiation and nuclear atypia in well and moderately differentiated carcinoma, but not with the invasive pattern of tumor growth. Immunoreactivity for p53 was positive in 30 cases and showed a distribution pattern very similar to PCNA but with fewer positive cells. Three distinct categories of expression for PCNA and p53 were observed, among them a combination of intense reactivity for both markers was indicative of poor differentiation, higher nuclear atypia and more invasive growth of tumor cells.

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